

Discussion of Proof-of-Principle Proposals at Fusion Energy Sciences Advisory Committee (FESAC) Meeting of July 30-31

Krebs' charge (dated 7/29/98):

Requests "FESAC's advice as to how we should incorporate such new or expanded programs into the F.E.S. program, given the current fiscal constraints."

Acknowledged that "a complete answer to the question requires an in-depth review of the entire fusion program" but nevertheless...

Asked FESAC for comments "to help as we formulate our FY2000 OMB budget request, which includes a five-year budget plan."

Summary of Proposals and Review Process (J. Willis)

Requested budgets (M\$)

Fiscal Year-->	1999	2000	2001
Stellarators	9.6	17.3	22.7
Magnetized Target Fusion	6.6	6.6	6.6
Reversed-Field Pinch	5.1	8.4	10.5
Total	21.3	32.3	39.8

- All judged ready for PoP by panel.
(http://wwwofe.er.doe.gov/More_HTML/Proof.html)
- Detailed presentations (15 min. talks + 15 min. Q&A):

FESAC Reaction:

- Generally positive to all 3 proposals. Seen as indicative of fusion program restructuring moving in the direction FESAC intended.
- Discussion themes common to all: Reactor potential? Science value? Details of program. Not much discussion about cost. Key questions for stellarators (J. Lindl, R. Briggs): a sufficiently dramatic departure from tokamaks? or “business as usual”?
- Encouraged DOE to keep moving forward in all 3 in FY-99.
(This is good. -hn)
- FESAC did not rank order or select. Want to consider them in context with all other possibilities in the fusion program.
- FESAC will review the entire fusion program (balance and restructuring progress) by Spring, 99 (requested by Davies).

NCSX Planning for FY-99

- To stay on schedule, must complete conceptual design, cost, schedule by 5/99.
- Intermediate milestones:
 - Reference configuration defined- Sept. 98
 - Physics Validation Review- Nov./Dec. 98
- We are laying out FY-99 workplans consistent with meeting this schedule, although currently budget guidance falls \$1.1M short of requirement. Reconcile (one way or the other) by start of 99.
- Engineering is planning a large ramp-up in effort starting Oct. 1. Effort will focus on WBS 1 (Torus systems). Key planning assumptions being made:
 - Basic requirements and design criteria will be defined by 10/1. (B-field, pulse length, current, disruption specs, heat loads, major port interfaces)
 - Basic coil configuration (e.g., type, # of periods) will be defined by 10/1; coil filament coordinates by 11/1.
 - Physics Requirements will be reviewed and finalized at PVR; physics support anticipated throughout FY-99.